

Name: _____ Date: _____ Period: _____

Spring Final Review: Heredity

Sex linked Punnet square problems

1. A colorblind man marries a woman who does NOT carry the allele for colorblindness. Fill in the Punnet square. What is the probability of their male offspring being colorblind? What is the probability of their female offspring being colorblind? What is the probability of their female offspring being carriers?

Males that are colorblind _____ %
 Males that are colorblind _____ %
 Females that are color blind _____ %
 Females that are carriers _____ %

2. A normal man marries a woman who is NOT colorblind, but inherited the allele for colorblindness from her father. Fill in the Punnet square. What is the probability of their male offspring being colorblind? What is the probability of their female offspring being colorblind? What is the probability of their female offspring being carriers?

Males that are colorblind _____ %
 Females that are color blind _____ %
 Females that are carriers _____ %

3. In rats, black coat color (B) is dominant over white coat color (d). If a white female mated with a heterozygous black male what would be the resulting probabilities of their genotypes and phenotypes? Fill in the Punnet square below.

Genotypes

BB _____ %
 Bb _____ %
 bb _____ %

Phenotypes

Black _____ %
 White _____ %

Mendelian Genetics

4. In the F1 generation a student crossed wrinkled-seeded (rr) pea plants with round-seeded (RR) pea plants. Fill in the Punnet square and the genotype and phenotype frequencies for the F1 generation.

Genotypes

RR _____ %

Rr _____ %

rr _____ %

Phenotypes

Wrinkled _____ %

Round _____ %

In the F2 generation the student crossed the offspring of the F1 generation above. Fill in the Punnet square and the genotype and phenotype frequencies for the F2 generation.

Genotypes

RR _____ %

Rr _____ %

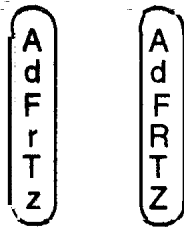
rr _____ %

Phenotypes

Wrinkled _____ %

Round _____ %

4. The following alleles are located on a set of homologous chromosomes as shown. Indicate which are homozygous recessive, homozygous dominant, or heterozygous.



AA _____

dd _____

FF _____

rR _____

TT _____

zZ _____

5. Humans have _____ pairs of chromosomes.

6. Humans have _____ pairs of autosomes and _____ pairs of sex chromosomes.

7. Sex linked characteristics and diseases such as colorblindness or hemophilia are carried on the _____ chromosome